APPENDIX H-4
CORRESPONDENCE

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Regional Office
1601 Kapiolani Blvd., Suite 1110
Honolulu, Hawaii 96814-4733
(808) 944-2200 • Fax: (808) 973-2941

OCT 13 2006

Colonel Howard J. Killian
Commander, U.S. Army Garrison
Schofield Barracks, Hawaii 96857-5000

Dear Colonel Killian:

This letter responds to your August 25, 2006 letter regarding the proposed training activities at Makua Valley, Oahu, Hawaii. Your letter requests National Marine Fisheries Service Pacific Islands Regional Office's (NMFS PIRO) concurrence under section 7 of the Endangered Species Act (ESA), 16 U.S.C. § 1536, with your determination that the proposed action is not likely to adversely affect threatened or endangered species under NMFS's jurisdiction.

Consultation History

On January 30, 2006, NMFS PIRO received a letter from Mr. Alan Goo regarding the original project proposal and request for our concurrence on a "no effects" determination by your office. On March 1, 2006, NMFS PIRO conveyed that it was unable to concur with your determination, raised a series of concerns regarding possible effects to listed marine species resulting from training activities, and recommended consultation be initiated with our office. On April 19, 2006, we received an email providing your contractor's (Tetra Tech dated April 10, 2006) responses to our acoustic questions, and on May 25, 2005, we responded via email to five action items. Subsequently, various communications occurred between our agencies regarding acoustic issues and measures to mitigate any adverse effects which may occur to listed species in and near the training area. A meeting between the U.S. Army (Army) and NMFS PIRO representatives occurred on June 26, 2006, to address these issues and discuss necessary components of your consultation request, which we received in our office on September 5, 2006. On September 19, 2006, NMFS PIRO contacted your office to clarify issues regarding the incorporation of the monitoring and mitigation measures, and an email response from your office addressing our concerns was received that day.

Proposed Action and Action Area

The Army proposes to resume consistent military training activities at Makua Military Reserve (MMR) to provide for company level, modified live-fire exercises. The Army needs to conduct a minimum of 18 company-level, combined arms, live-fire exercises (CALFEXs) per year. A company-level CALFEX is a combat training exercise through which the Army unit synchronizes or orchestrates the application of several arms, such as infantry, aviation, artillery, engineers, and others, to achieve a combined effect on the enemy greater than if each weapon system were used individually.

The Proposed Action is conducting the necessary type, level, duration, and intensity of live-fire and other military training exercises at the MMR for the combat units. At MMR, live-fire training includes basic weapons marksmanship ranges, grenade training, urban/village assault and entrenched enemy training, small unit live-fire and maneuvers, artillery and mortar firing, infantry demolition training, and use of mines and bangalore torpedoes. A typical company-level CALFEX would include a maneuver ground force of dismounts with small arms weapons (M4,M16A1/A2, M249 SAW, M240B machine gun, M203 grenade launcher). Units conducting a typical CALFEX would be supported by indirect fire and aviation units. Indirect fire support would include the company and battalion mortars (two 60 millimeter (mm) mortars, two 81 mm mortars, and the 120 mm mortar), as well as the platoon 105 mm artillery (three howitzers); 155 mm howitzers would be used interchangeably with the 105 mm weapons. Aviation fire is normally provided by a platoon of OH-58D Kiowa Warriors (i.e., up to three helicopters). CALFEXs follow a variety of tactical operations that may be offensive or defensive, but they generally use the same types of weapons and munitions.

To serve the training needs of the 18 infantry companies and 1 cavalry troop within the Army's 25th Infantry Division (Light) and the 9 infantry companies within the U.S. Marine Corps, a training area would need to accommodate a minimum of 28 CALFEXs each year. CALFEX training at MMR uses approximately 1,136 acres (460 hectares) of land and excludes the nearby Makua Beach. The Action Area is Makua Valley and the nearshore waters between Dillingham Airfield and Makua Valley.

In order to minimize potential training effects on marine protected species, the Army has committed to implementation of specific monitoring and mitigation measures. These measures will be incorporated into the Army's existing Standard Operating Procedures (SOP) for the Makua Valley Reservation and a copy of the revised SOP will be provided to NMFS PIRO for our files. Monitoring and mitigation measures include:

1) Conduct overflights of the beach prior to commencing training operations to search for Hawaiian monk seals that may be hauled out on the beach.

2) Alter training operations if a seal is hauled out by prohibiting direct beach overflights and limiting munitions use to avoid affecting the animal. These training restrictions would also be implemented immediately if a seal is observed during training event. The training will be altered to allow the animal to voluntarily leave the beach.

3) Avoid overflights of humpback whales by requiring helicopter pilots to use search and avoid techniques. These techniques require pilot maintenance of a 1,000 feet (ft) distance between their aircraft and a whale, including horizontal and vertical aircraft movement away from an observed whale to attain and adhere to the 1,000 ft buffer following a whale sighting.

4) Use of OH-58D Kiowa Warrior thermal imaging systems to search for protected species during night operations. Use of a thermal scan during nighttime gunnery operations will also be conducted through flights over the ocean ¼ mile offshore prior to a training event. The thermal imaging system uses temperature differentials to create thermal images viewable to

the naked eye and is accurate to a two-degree differential. These scans will be completed every two hours until training has ceased.

Additionally, the Army will conduct a hydrophonic noise study during the next CALFEX event. This study will measure the direct noise levels generated by the exercise and provide additional scientific information to more accurately assess potential noise impacts to listed species. The Army has committed to reviewing these noise levels, and reinitiating consultation under the ESA should the actual noise levels exceed the harassment levels defined under the Marine Mammal Protection Act of 1972 (MMPA) and used by our agency.

Species That May Be Affected

Endangered humpback whales (*Megaptera novaeangliae*), endangered Hawaiian monk seals (*Monachus schauinslandi*), and threatened green sea turtles (*Chelonia mydas*) are known to occur in the project area and may be affected by this project. Endangered hawksbill turtles (*Eretmochelys imbricata*) may also be present, but are very uncommon in the action area.

Critical Habitat

There is no critical habitat designated for any listed marine species within the waters surrounding the island of Oahu. Therefore, this project will have no effect on designated critical habitat.

Analysis of Effects

Anticipated effects to ESA-listed species fall into three categories: 1) temporary disturbance from aircraft operations; 2) noise disturbance from explosions employed during the training activities; and 3) injury or mortality from an aircraft accident or misfire during live-fire training operations. The amount and extent of these effects on humpback whales, Hawaiian monk seals, and green and hawksbill sea turtles are dependent on the degree of overlap between the operations and encounters of these protected species during the training activities.

Humpback whales breed in Hawaiian waters during the winter season (December to April) with a period of peak abundance during late February to early April. The greatest densities of adult humpbacks and calf pods occur on Maui, Molokai, Kahoolawe, Lanai, and the Penguin Bank region. The species can appear as early as September and remain as late as May. Humpbacks mainly inhabit leeward (western) coasts, in waters shallower than 100 fathoms (183 meters). Although humpback whales have occasionally been observed in Hawaiian coastal waters during the late spring-summer months, this number is typically low. As such, the likelihood of whale encounters during aircraft operations associated with proposed Army training activities at Makua Valley will vary seasonally with the presence or absence of whales.

Hawaiian monk seals are distributed throughout the Northwest Hawaiian Islands (NHWI) and a small number of monk seals are seen in the main Hawaiian Islands. Over the past decade, a few monk seals have been born on Niihau, Kauai, Oahu, Maui, and Molokai.

Green sea turtles are found around most of the islands in the Hawaiian archipelago and they spend their juvenile and adult life near coral reef environments. Green sea turtles are known to nest at six small sand islands at French Frigate Shoals, NWHI, and 90% of the species's nesting and breeding activity also occurs there. The species has a nearly exclusive herbivorous diet consisting of selected macroalgae and sea grasses. At certain nearshore habitats of the Main Hawaiian Islands, green turtles feed on benthic algae. The species is likely to occur in nearshore waters in the action area.

Hawksbill sea turtles are considered rare to nonexistent in most localities, but are known to nest primarily on several small sand beaches on Molokai and Hawaii. The species is classified as an opportunistic feeder on a wide variety of marine invertebrates and algae. The likelihood of hawksbill turtle encounters in the action area is very low as this species is not common in the action area.

Training activities involve daytime and nighttime helicopter support and assault activities. Helicopters flights are anticipated from Dillingham and Wheeler Army Airfields around the coastline and enter Makua Valley from Makua Bay. As helicopter flights will occur below the 1,000 ft elevation, pilots will maintain the required 1,000 ft separation distance between humpback whales and incorporate search and avoid techniques to minimize and/or avoid direct aircraft encounters with whales. We also expect a low frequency of direct encounters with marine species during assault exercises at night based on the Army's use of the OH-58D Kiowa Warrior thermal imaging system and thermal scan equipment. These tools provide species presence or absence data prior to a training event. The Army will only conduct training exercises at sites devoid of marine protected species.

Additional Army SOP requirements regarding flight searches for Hawaiian monk seals haul-out in the training action area and training restrictions when an animal(s) is observed ultimately reduce the frequency and exposure of the species to aircraft and noise disturbances. Army adherence to its revised SOP for Makua Valley Reservation will further minimize the likelihood of future interactions between the species and training events.

Based on the above measures, we expect a low probability and frequency of exposure of humpback whales and Hawaiian monk seals to aircraft disturbance during training operations. Any temporary disturbance would be insignificant and result in no adverse changes to humpback whale and Hawaiian monk seal feeding, breeding, or resting behaviors. Thus, we expect insignificant effects to humpback whales and monk seals from the aircraft operations included in the proposed action. As we expect a low frequency and probability of sea turtle encounters during the training operations, short-term, temporary disturbance effects are also likely insignificant and would not result in adverse behavioral changes.

Another potential training impact to humpback whales, monk seals, and sea turtles is noise from explosive detonations, explosive weapon firing, and helicopter overflights. Because a growing number of studies have shown impacts from noise on biological resources, the Army conducted an acoustic modeling study in order to obtain more information on noise levels from various operations at MMR. The study compared the received noise levels from these

various sources to criteria established to represent Level A and Level B harassment, which is defined by the MMPA, as modified by the National Defense Authorization Act of 2004.

The modeling study determined that neither type A nor type B harassment is expected to result from project actions. A maximum received level of 160 decibels (dB) re 1 micro Pascal (μPa) is assumed as a conservative (cautious) threshold for Level B harassment for the types of broadband signals. This is consistent with the 160 dB root mean square received level that is utilized by the seismic community for air gun operations. Application of the 160 dB threshold is also conservative for spinner dolphins, which while not ESA-listed, were considered as they are MMPA-listed and are known to occur regularly in the project area. With respect to the hearing range for sea turtles, they are not as sensitive to noise disturbance as are marine mammals.

Nevertheless, the lowest harassment threshold currently used by NOAA Fisheries (160 dB re 1 μPa) was never approached by the noise sources to be used during military training. The in-water noise levels for each of the three major sources had the following maximum (rounded) levels: 143 dB from explosive detonations; 129 dB from weapon firing; and 88 dB from helicopter over flights. The maximum predicted in-water received level for any explosive source used at Makua was assessed at 142.6 dB re 1 μPa (Marine Acoustics 2005), which is equivalent to 0.002 pounds of force per square inch. These values and the equivalent/appropriate energy levels are below any of the in-water explosive Level A or B criteria for marine mammals.

The maximum received level at the beach at Makua, was cited as 90.2 dB re 20 μPa. This value is approximately 10 dB less than the impact threshold. Therefore, in the event that a Hawaiian monk seal occurs on the beach, no effects are anticipated for this species. As with the in-water analysis above, any sea turtles present on the beach would also be less sensitive to noise disturbance compared to the Hawaiian monk seal. Therefore, no effects on listed marine mammals and sea turtles are anticipated to occur within the action area from the explosive components of the proposed action.

For helicopter operations, it was determined that the maximum received levels were within 5 dB of the expected local in-water ambient noise. Therefore, no impact on any of the listed marine mammals or sea turtles is anticipated from the helicopter component of the proposed action. No auditory impacts from helicopter overflights are expected on spinner dolphins, as the MMR modeling study determined that the noise levels produced would be below the thresholds expected to cause auditory impacts on dolphins (Marine Acoustics 2005). The results of the study indicate that the in-water noise levels from helicopter over flights would be a maximum of 90 dB, which is far below the level (160 dB) for MMPA Level B harassment.

For helicopter operations, the maximum received level in-air at the beach was within 5 dB of the expected level of in-air ambient noise. Therefore, no impact on Hawaiian monk seals or sea turtles on the beach are anticipated from the helicopter component of the proposed action.

In summary, based on the modeling study, the proposed mitigation measures, and the use of the most current acoustic thresholds, the anticipated acoustic impacts to listed species associated with military training at Makua Valley is determined to be insignificant, and thus, not likely to adversely affect listed marine species.

Finally, it is possible for an animal to be seriously injured or killed by an aircraft accident or misfire especially during live-fire training operations. However, this probability is extremely low, as live-fire training is not conducted in close proximity to the beach or ocean waters, and thus considered to be a discountable threat to listed species as a result of this proposed action.

Based upon the Army's commitment to strictly adhere to and incorporate monitoring and mitigation procedures into its SOP, provide the revised SOP and results of a hydrophonic noise study from it's next full CALFEX to our office, the insignificant if any temporary disturbance that may possibly occur as a result of the training operations, and the discountable probability of any serious injury or mortality, NMFS concurs with the determination that this project is Not Likely to Adversely Affect ESA-listed humpback whales, Hawaiian monk seals, green sea turtles, or hawksbill sea turtles.

Conclusion of Consultation

This concludes your consultation responsibilities under the ESA for species under NMFS's jurisdiction. Consultation must be reinitiated if: (1) a take occurs; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the identified action is subsequently modified in a manner causing effects to listed species or critical habitat not previously considered; or (4) a new species is listed or critical habitat designated that may be affected by the identified action.

We would also appreciate that the Army document sightings of ESA-listed animals in the action area during training operations and report to our office information on the location of the animal and the mitigation measures taken by the Army in accordance with its commitments made during this consultation. If you have further questions please contact Arlene Pangelinan on my staff at (808) 944-2258. Thank you for working with NMFS to protect our nation's living marine resources.

Sincerely,

William L. Robinson
Regional Administrator

From: Sarah Malloy [sarah.malloy@noaa.gov]
Sent: Friday, May 14, 2004 12:46 PM
To: Godfrey Joel E USAG HI DPW; Margaret Akamine
Subject: Makua Military Training

Hello Joel:

Pursuant to your request during our conversation this week, this email serves to describe the typical timing of consultation-related events. NOAA Fisheries requests all potential applicants to initiate consultation at the point when a project proposal has been solidified as much as possible. In cases where a NEPA analysis is being conducted on the project proposal, the appropriate consultation point is generally at the time that the draft EA/EIS is published or finalized and about to be published. This is the guidance that we give all potential applicants. If the applicant seeks to initiate consultation earlier than this point, NOAA Fisheries requests that the applicant provide a rationale for this request such that an exception can be considered. As such, if the Army wishes to proceed with consultation on the proposed Makua Military Reservation training that is the subject of the Army's April 6, 2004 letter to NOAA Fisheries prior to the issuance of the draft EIS associated with the MMR training proposal, NOAA Fisheries requests a justification for such action.

In addition, NOAA Fisheries has reviewed in detail the request for consultation that you submitted on April 6, 2004, in preparation for the consultation. To facilitate the consultation process, NOAA Fisheries will shortly forward to you some recommendations for information that will help out in conducting this consultation. That way, the Army can understand our concerns and we can move forward expeditiously to the next phase of the process.

Please don't hesitate to contact me via email or at 973-2937 with further questions.

Thanks - Sarah Malloy, Pacific Islands Regional Office.

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY GARRISON, HAWAII
SCHOFIELD BARRACKS, HAWAII 96857-5000

REPLY TO
ATTENTION OF

06 APR 2004

Office of the Garrison Commander

Ms. Margaret Akamine
Protected Species Program
United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Pacific Islands Area Office
1601 Kapiolani Boulevard, Suite 1110
Honolulu, Hawaii 96814-0047

Dear Ms. Akamine:

The purpose of this letter is to consult with the National Oceanographic and Atmospheric Administration Fisheries Division in accordance with the Endangered Species Act, Marine Mammal Protection Act, and Magnusen-Stevens Act on potential impacts of proposed military training at Makua Military Reservation on marine species. This letter describes the proposed action, the marine species that may be affected by the action, the potential affects and minimization of affects to those species, and a conclusion on the likelihood of adverse affects to those species.

As mentioned above, the proposed action is to conduct military training exercises at Makua Military Reservation (MMR), and the Army is writing an Environmental Impact Statement (EIS) for this action (see map at enclosure 1). If selected, the training exercises would take place at the Company Combined Arms Assault Course (CCAAC) at MMR, which is currently used for Combined Arms Live Fire Exercises (CALFEXs), dismounted live-fire maneuver training exercises and nonlive-fire maneuver exercises. Mock battles are staged at eight physical objectives throughout the CCAAC. The training area north of the CCAAC includes areas for parking, bivouac, ammunition storage, and staging. Artillery firing points are located within and outside of the CCAAC, but all ammunition is fired at targets within the CCAAC. The Army does not conduct training exercises on the beach. See enclosure 2 for descriptions of CALFEXs and other training activities.

The EIS analyzes the following alternatives:

a. No Action Alternative. Under no action, the Army would not use MMR for training.

b. Proposed Alternatives. There are four alternative training levels to accomplish the proposed action:

- Alternative 1 - Nonlive-fire training;
- Alternative 2 - Reduced Capacity Use with Some Weapons Restrictions;
- Alternative 3 - Full Capacity Use with Some Weapons Restrictions; and
- Alternative 4 - Full Capacity Use with Fewer Restrictions.

For alternatives 2, 3 and 4, impacts were analyzed assuming that MMR would be used for 242 training days per year, but fewer training days are expected to be used due to the limitations on live-fire training. Army training facilities are normally scheduled for use 242 days per year during peacetime; the high number of

scheduled days illustrates the significant demand for this facility (HQDA 1992). Under Alternative 2, the Army would use MMR in a reduced capacity and would conduct a limited number of company-level CALFEXs, 19 to 28 per training year. Under Alternatives 3 and 4, the Army would maximize its use of MMR and would conduct up to 50 company-level CALFEXs per training year.

For all live-fire alternatives, weapons systems would be similar to those used under current training conditions. The use of tracer ammunition is included under Alternative 3. Alternative 4 includes use of tracer ammunition, inert TOW missiles, inert 2.75-caliber rockets, and illumination munitions. Each incrementally higher alternative has increased impacts due to frequency/ quantity of training, and/or increased equipment and weaponry.

Preferred Alternative. The Army's preferred alternative is Alternative 4. Training under Alternative 4 would provide for squad and platoon maneuver nonlive-fire training, and company offensive and defensive training force-on-force operations, and up to 50 company-level CALFEXs per year (242 training days per year) using live ammunition that includes tracer bullets. This would occur within the Company Combined Arms Assault Course (CCAAC), which is a 457-acre (185-hectare) heavily-vegetated training course in the southwestern portion of MMR. These exercises would occur during both daytime and nighttime. MMR would continue to be used as a staging base for ground movement (i.e. troop marches), and air assault exercises. No training would be conducted on Makua Beach. Other than the company-level (80-150 soldiers) CALFEX, other training activities include squad (5-10 soldiers) and platoon (20-40 soldiers) live-fire exercises, possible static range operations (for example, demolitions and sniper training, nonlive-fire maneuver exercises, force-on-force exercises using simulated weapons systems, and staging for ground or air movement of troops. Training would be limited to MMR, with the exception of a trail over the north-central ridgeline used during troop marches from Dillingham Military Reservation (DMR) to MMR, hereinafter called the Kuaokala Trail, and the Ka'ena Point Trail. The CCAAC would be used for dismounted live-fire maneuver training exercises and nonlive-fire maneuver exercises. The training area north of the CCAAC would be used for bivouac areas, support for live-fire training, artillery firing points, sniper training, and other nonmaneuver training.

Live-fire training includes basic weapons marksmanship ranges, grenade training, urban/village assault and entrenched enemy training, small unit live-fire and maneuvers, artillery and mortar firing, infantry demolition training, and use of mines and bangalore torpedoes. MMR would be made available to other military units for training. In the past, the Marine Corps, Navy, Coast Guard, Army Reserve, and Hawai'i Army National Guard have trained at MMR. Provided MMR is made available for use, it is likely that forces from other countries hosted by the 25th ID(L) as part of the US Pacific Command Theater Security Cooperation Plan would use this training resource from time to time in the future. These military units also would be limited to a company-level CALFEX as the maximum level of training.

Potential Impacts to Species. The action area for determining potential impacts to marine species addressed in this consultation has been determined to be from the beach to 0.5 mile from the shoreline and is based on a combination of helicopter use patterns and high-use dolphin habitat.

- Marine Mammal Species that may be within the Action Area (see enclosure 3).

There are no marine wildlife species that are documented as residential in the action area, but certain species occur with enough frequency to be considered anecdotally as residential, in this case meaning that they are expected to make daily or almost daily appearance (though this may vary by time of year). Species that fall into this category are the humpback whale, spinner dolphin, and green sea turtle.

Potential Affects to Marine Wildlife.

a. Noise and Visual Affects from Helicopters.

1) Turtles are not expected to be adversely affected by training. There is no known turtle nesting area along the beach at MMR. When the turtles are in the water, the majority of the body is submerged and the animal comes to the surface to obtain a breath of air before fully submerging. Any exposure to passing helicopters would be brief.

2) Three mammal species that may be adversely affected are monk seals, humpback whales during the months of January through April, and spinner dolphins. Noise and visual disturbance could frighten mammals causing them to flee. However, this should be not be adverse for the following reasons:

- The pilots look for marine mammals and avoid them by staying at least 1,000 feet away when spotted. To minimize any potential noise affects or visual disturbance to marine mammals, the Aviation Brigade of the 25th Infantry Division has initiated changes to its Local Flying Rules. Helicopters will avoid any marine mammals by at least 1,000 feet.
- During the night, pilots use night vision goggles and can spot marine mammals on the surface of the water or on land. If any are spotted, they avoid them by at least 1,000 feet.
- If marine mammals are underwater and not spotted during the day or night hours, the level of noise underwater will be much lower than if they were on the surface of the water.
- To the best of our knowledge, humpback whales are not known to come close to shore at MMR.
- During the evening hours, spinner dolphins are not expected to be close to MMR, but rather in deep waters feeding off of Kaena Point.
- On average, there are only 3 helicopters being used for training. If they pass over any marine life, it should be very brief lasting for only a couple of seconds due to the speed that helicopters travel at. If they are in a hover mode and they spot marine mammals, they will move away by at least 1,000 feet.

b. Noise from explosions. The impact sound levels from explosions would be projected horizontally over the ocean. Noise from explosions is not expected to be an adverse impact to marine turtles or mammals for the following reasons:

1) Noise does not easily penetrate below the air-water interface.

2) Most of the time the bulk of the marine turtles' or mammals' bodies are underwater.

3) In the morning spinner dolphins that frequent the area in front of MMR rest on the sandy bottom for the majority of the time and come up to the surface only for a breath of air only to go back to the sandy bottom.

4) The monk seal may occasionally come out the water on the beach to rest. If this were the case, the noise training noise levels from explosions may disturb the animal and cause it to flee. However, the Army will monitor for the presence of the seal and if found, large explosions will not be conducted.

c. Sediment Runoff Obscuring Vision of Marine Wildlife. Sediment runoff, if present, could cause an increase in turbidity in near-shore waters and obscure the vision of turtles and marine mammals. However, this is not expected to be an adverse impact to marine turtles or mammals for the following reasons:

1) MMR is located in a dry part of Oahu and rainfall is minimal. Streams normally do not flow throughout the year unless there is a large storm event. Therefore, storm runoff from MMR would be minimal and sediment runoff is not anticipated to be adverse.

2) Guinea grass occupies most of the valley floor. The grass is very tolerant to fire and after fires, grows back very rapidly.

3) The expected increase in erosion from training would be within the natural range that exists due to rainfall and runoff variation is not expected to be significant.

4) Muliwai ponds at the base of the streams exiting MMR collect sediment and the water filters through the sand prior to entering the ocean.

5) To the best of our knowledge, any turbidity from runoff into the ocean in the past has not lasted very long and the ocean clears up quite rapidly.

Minimization of Potential Adverse Noise Affects and Potential Visual Disturbance to Marine Mammals.

a. The Army does not anticipate adverse impacts to marine mammals (spinner dolphins). However, the Army is conducting noise modeling to ascertain if potential impacts exist. In addition, the Army will conduct a noise monitoring study in the future during the next CALFEX conducted at MMR; however, there are no CALFEXs scheduled to occur at MMR at this time.

b. The Army will share the results of the study with NOAA Fisheries. If the study results show that there are adverse affects to marine mammals, the Army will reinitiate consultation with NOAA Fisheries.

Potential Affects to Essential Fish Habitat (EFH). The Army conducted an analysis of potential affects to EFH and the results show that EFH will not be affected. The analysis is enclosed (enclosure 4).

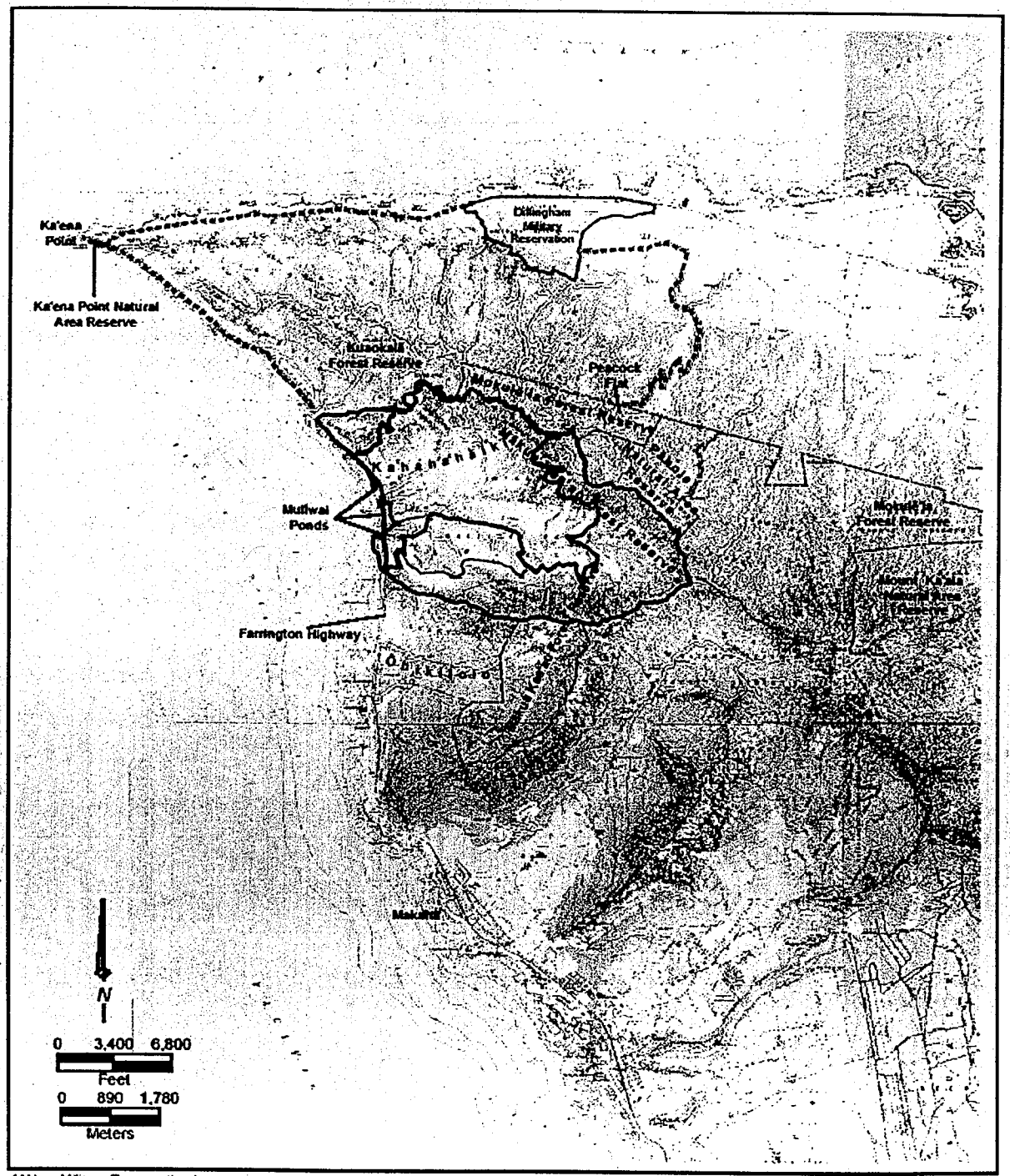
Conclusion. The Army concludes that the proposed action is not likely to adversely affect marine mammals and turtles in accordance with the Endangered Species Act and Marine Mammal Protection Act, or essential fish habitat in accordance with the Magnuson-Stevens Act. We would appreciate a response from you as to whether or not you agree with our determination. If you have any questions please contact Mr. Joel Godfrey, Chief, Conservation/Restoration Branch, Environmental Division, Directorate of Public Works at telephone number (808) 656-2878 ext. 1050.

Sincerely,

David L. Anderson
Colonel, US Army
Commanding

Enclosures

Enclosure 1



Mākua Military Reservation is approximately 1.5 miles south of Dillingham Military Reservation and 3 miles north of Makaha, the nearest community

Legend

- Mākua Military Reservation
- Company Combined-Arms Assault Course (CCAAC)
- Trails
- Roads
- July 2003 Wildfire Boundary

Project Location

Mākua Military Reservation
O'ahu, Hawai'i

Enclosure 2

Description of Proposed Training at MMR

1. Maneuver Live-fire Training in General

Live-fire exercises require several iterations of training. The ultimate goal of each live-fire exercise, regardless of unit size, is to execute the exercise at night, under limited visibility. A squad conducting a live-fire exercise would initially rehearse its action by conducting a dry walk-through with no ammunition (first iteration). It would then go full speed using blank ammunition (second iteration). Providing this is done to standard, the unit then would execute a daytime live-fire exercise (third iteration). Nighttime live-fire exercises add a new dimension to the battlefield and require additional iterations. In general, after a unit has successfully completed daytime live-fire exercises, it would conduct a nighttime blank fire rehearsal (fourth iteration), before finally culminating in a nighttime live-fire exercise (fifth iteration). Due to the current limitations on munitions at MMR, units do not conduct nighttime live-fire exercises; however, nighttime live-fire exercises are essential in ensuring units are combat ready.

2. Combined Arms Live-fire Exercise (CALFEX)/ Maneuver Training

a. General Description: A typical company-level CALFEX would include a maneuver ground force of dismounts with small arms weapons (See Table 1 below). It would be supported by other arms such as indirect fire and aviation assets. Indirect fire support would include the company and battalion mortars (two 60mm mortars and two 81mm mortars), as well as a platoon of 105mm artillery (three howitzers). Aviation fire is normally provided by two OH-58D Kiowa Warrior helicopters. CALFEXs follow a variety of tactical operations. These exercises may be offensive or defensive, but they generally use the same types of weapons and munitions. The most common CALFEX is attacking a strong point, which can be anything from forces defending a built-up area to forces defending from a trench line.

b. Example CALFEX: The following describes typical five-day course of events, during which one company uses the training areas at MMR. Generally, the CALFEX described below involves a unit attacking an opposing force defending from a trench line. Depending upon units and training needs, however, other CALFEX scenarios may vary.

Table 1. Weapons and Ammunition Analyzed for Use at MMR

Weapon	Ammunition or Charge
Small arms:	Ball bullets:
Rifles	5.56mm and 7.62mm,
Pistols	9mm, .45-caliber, .38-caliber, .22-caliber
Machine guns	5.56mm, 7.62mm, .50-caliber, 40mm target practice (TP)
Shotguns	12 gauge shotgun (00)
Helicopter guns	7.62mm, .50-caliber
Tracer ammunition	5.56mm, 7.62mm, and .50-caliber
Green ammunition	5.56mm and 7.62mm*
Short-range training ammunition (SRTA)	5.56mm and .50-caliber
Mortars and artillery	60mm HE and 60mm SRTA 81mm HE and 81mm TP 105mm HE (artillery) 120mm HE (mortar)[1] 155mm inert (artillery)[1] artillery simulators
Anti-tank weapons	AT-4/M136 (84mm HE anti-tank rocket) Javelin[1] 2.75-caliber rocket (inert)[1]
Shoulder-launched multipurpose assault weapon (SMAW)	Launcher assault rockets SMAW practice round
Inert TOW missile launcher	Inert TOW missile blast effect simulator
Illumination munitions	81mm mortar and 105mm artillery
Smoke grenades	Colored, hexachloroethane smoke, white smoke, and target acquisition smoke practice
Grenades	Fragmentation, offensive, practice, simulators
Demolitions	Limit 300-pound (136-kilogram) net explosive weight, including bangalore torpedoes
Mines	Claymore antipersonnel, inert antipersonnel (volcano delivery device or modular packed mine system [MOPM] delivered), anti-tank

Notes:

*With the exception of the green ammunition, 120mm mortar, 155mm artillery, and 2.75-caliber rockets, weapons listed in Table 1 have either been used in the past, or are used currently for training at MMR. The Javelin would be phased in to replace the previously used Dragon, a similar weapon system.

Of the weapons listed in Table 1, only smalls arms and smoke grenades would be used under Alternative 1 for nonlive-fire training. Nonlive-fire use of small arms would involve blank ammunition for simulated gunfire.

USARHAW would discuss and consult with USFWS regarding the use of SRTA, green ammunition, tracers, inert TOW missiles, illumination munitions, 120mm HE mortar, 155mm artillery, and 2.75-caliber rockets.

Weapons used by other military units training at MMR would be substantially similar to those Army weapons listed in this table.

Day 1 - Movement to the Site: Moving an infantry company to MMR typically involves a maximum of 150 persons and supporting elements, which depart from Schofield Barracks with military vehicles. Aviation units fly out in helicopters at scheduled times prescribed in the training scenario. A variation of this is sometimes used where movement to the site is by air: This is the same type of CALFEX described above, except rather than being transported by road, soldiers board helicopters (either six UH60s or two CH47s) at Schofield Barracks and fly to the approved landing zone north of the range control buildings.

Day 2 - Preparation and Dry Fire: Exercise units arrive at MMR and bivouac in designated areas near the road. Unit personnel practice their exercise without live-fire and conduct other tasks associated with preparing for the actual live-fire exercise. Popup targets and blast simulators are sometimes placed in the training area to replicate enemy contact. Unit leaders (captains, lieutenants, and sergeants) receive briefings from the 25th ID(L) G3 Training, Range Division, USAG-HI DPW Environmental and Cultural Resources staff on the locations of threatened and endangered species and habitat, locations of known cultural resource sites, fire hazards, and fire prevention measures and procedures. Where necessary, the scenario is modified to reduce the risk of fire and other damage to the environment. The unit leaders then brief every soldier in the unit on the importance of protecting endangered species and habitat and cultural sites and of avoiding wildland fires.

Days 3 and 4 - Live-Fire Exercise: Personnel conduct their actual training exercise. On day three, only blank ammunition is fired, and mortars and artillery are aligned, calibrated, and fired. Training exercises conducted on both days typically last approximately three hours and begin at dawn. Soldiers in the lead platoon fire their rifles and machine guns at the objective or target. The mortar section fires 60mm mortars at the objective, while the lead platoon moves toward it. Most exercises present advancing platoons with the problem of trench lines, mine fields (simulated), and concertina wire obstacles. Bangalore torpedoes (10-foot [3-meter] tubes with explosives) may be used to blast routes through such locations.

After the minefield and wire obstacle have been cleared, the soldiers run through the breach to the trench complex. The unit soldiers clear the bunkers within the trench system with fragmentation hand grenades.

Upon seizing their objectives, units must prepare for any counterattack. A company commander may direct the emplacement of claymore mines (small, command-detonated antipersonnel mines) in front of the unit. If artillery is employed in the scenario, the company commander may distribute its fire in advance of an attack or direct its fire toward a target to suppress counterattack. The commander may also direct the company's anti-armor section to position its missile launchers to prevent any enemy tanks from overrunning the just-taken

objective (e.g., the trench line). Once the enemy counterattacks and is repelled by the company, the exercise is over.

Day 5 - Cleanup: On day five and sometimes at the end of day four, units remove any target equipment they may have provided, gather brass casings from spent rounds, remove litter, and otherwise make every effort to restore the range to its condition prior to their use. Explosive ordnance disposal (EOD) specialists destroy all identified unexploded ordnance (UXO).

c. Unmanned Aerial Vehicle (UAV) training. In the future a UAV may be used. The UAV can be likened to a large radio controlled model airplane. The UAV would allow tactical commanders a view into heavily protected battle space that could not be penetrated by other intelligence assets or that presents a high risk to piloted aircraft. The aircraft weighs approximately 325 pounds, has a wingspan of 13 feet (4 meters), and measures 11 feet (3.4 meters) from nose to tail. It is a remote controlled, gas powered vehicle. These would not land at or take-off from MMR but would be flown in from Dillingham Airfield prior to a CALFEX to obtain pictures for reconnaissance and photo observation approximately three to six hours each week during training exercises. The UAV would stay 1,000 feet above the ocean to avoid disturbing any marine mammals.

d. Aircraft Maneuver Training

There are two primary corridors or flight patterns between WAAF and MMR used by helicopters participating in exercises at MMR: 1) due north from WAAF to the east of Hale'iwa, a left turn over Waialua Bay paralleling the north coast of O'ahu to off Ka'ena Point, and then south to MMR and the restricted area complex; 2) due west from WAAF through the Kolekole Pass Highway and then straight to MMR (see Figure 3-4). When weather conditions prevent use of the primary flight corridors, a third corridor is used; from WAAF, the helicopters fly due south along Kunia Road to Ewa Beach, then along the coast to MMR.

Altitudes flown are 2,100 feet (640 meters) above ground level (AGL), except over the water where the helicopters fly at a 300-foot (91-meter) minimum altitude above the ocean. Over land, helicopter traffic pattern altitudes, in accordance with AR 95-1, Aviation Flight Regulations, are at least 700 feet (213 meters) AGL, but may be set at different altitudes based on noise abatement, "fly neighborly" policies, or other safety considerations. Flight schedules are not provided to the community in advance.

When transiting the north shore off DMR, helicopters fly one or two nautical miles (two to four kilometers) offshore until they reach Ka'ena Point, for example. But if they are flying into Dillingham Airfield to stop before an exercise, or to stop at the Forward Area Rearm and Refuel Points (FARRP), they would typically fly unaided at 700 feet (213 meters) both day and night and at 300 feet (91 meters) when using night vision goggles. The Dillingham FARRP is south of

the runway in the "Boondocks" training area close to the northern boundary of the R-3110 B & C restricted area (Fancher 2003a).

During CALFEXs, OH58 (Kiowas) and UH60 (Blackhawks) are used. The exercise typically involves two or three OH58s (two for firing and one for command and control) and one UH60 for standby with a water bucket in case of a wildfire, with one exercise in the morning and one in the afternoon. During the exercise, there is typically a ground rehearsal, a fly-by rehearsal, and then the actual close-air support firing exercise with the regular .50-caliber M-2 rounds. Over the five-day CALFEX, there would be up to five helicopter approaches during the nonlive-fire day and up to five approaches during each of the daytime and nighttime live-fire iterations. In addition, two CH-47 Chinook helicopters would transport troops and equipment from Schofield Barracks to MMR.

During the exercises, the helicopters would depart MMR and rearm and refuel at the FARRPs located at DMR and at Schofield Barracks just off the Kolekole Pass Highway, approximately five miles (eight kilometers) west of WAAF. On average, each helicopter flies to the FARRP four times during each exercise.

On the way to MMR for a live-fire exercise, the helicopters typically stop to pick up ammunition at either the DMR FARRP, or at the Kolekole Pass Highway FARRP. They would then proceed to MMR, participate in the exercise, and fly back to one of the FARRPs to rearm and refuel. Fuel and ammunition temporarily stored at the FARRPs for the duration of the exercises is brought in by truck from the fuel depot and permanent ammunition storage areas (Andera 2003a).

During each live-fire exercise conducted at MMR, the helicopters hover as they wait to re-group after each firing pass. The hover point is usually behind the ridge at the southern boundary of the R-3110 A & B restricted area (Figure 3-4) just east of Farrington Highway, where they can hover for 30 to 45 minutes at a time, typically. The command and control helicopter typically flies orbits (to conserve fuel) over the ocean at 300 to 400 feet (91 to 122 meters) above sea level. Its distance from shore ranges from about one-quarter mile (0.4 kilometer) to one-half mile (0.8 kilometer), and at times one mile (1.6 kilometer) offshore. The pilots watch for marine mammals and avoid them when spotted. At no time do they go beyond the jurisdictional waters of the United States.

Air assault exercises are conducted less frequently than CALFEXs. There is also ongoing basic training of new pilots assigned to Hawai'i, involving one or two flights per day familiarizing them with the terrain and training areas. OH58s or UH60s are used for this training. About 45 percent of this training is conducted at night. Total flight hours have dropped about 75 percent since 1994, primarily from the cessation of training in 1998 and restrictions on training frequency per

the Settlement Agreement. Inclement weather (ceiling visibility and wind turbulence) affects flying about 25 percent of the time (Andera 2003b).

e. Other Types of Training

1) Sniper Training: Static sniper firing includes using a M24 sniper rifle firing a 7.62 caliber round at targets up to 3,281 feet (1,000 meters) away. Snipers frequently participate in CALFEXs at MMR.

2) Demolitions Training: Demolitions training using low levels of explosives would take place in the area in and around Objective Deer (See figure).

3) Staging Base for Ground or Air Movement: The 25th ID(L) would continue to use MMR as a staging base to begin foot movements while carrying a heavy load, and to provide a final destination. The 25th ID(L) will also continue to use MMR as a staging base for air movement as a possible air assault objective. The components of the air assault are similar to the CALFEX, the only exception being that artillery and troops would be brought in by air, moments before the attack begins, to practice the element of surprise. The objective would be suppressed with aviation fire (.50 caliber), and troops would be airlifted into the valley in close proximity to the objective. Actions on the objective might include conducting a breach (use of a bangalore), then entering and clearing a trench. The 25th ID(L) is also likely to use MMR as a possible pickup zone for air-assault operations at other training areas.

4) Stryker Brigade Combat Team (SBCT): A separate Environmental Impact Statement (EIS) is being prepared that addresses the environmental impacts of transforming the 2nd Brigade of the 25th ID(L) into a Stryker Brigade Combat Team (SBCT). That team is a more rapidly deployable force and an interim step in the Army's long-term plan to update and improve the effectiveness of its forces. The principal differences between the current Legacy Forces (that is, the Army units and structure currently in place) and the SBCT would be an increase in the number of personnel, introduction of the Stryker vehicle, use of a larger 120mm mortar, and modification of the training requirements to guide the unit readiness training. The SBCT forces would conduct dismounted (not within vehicles) training to include company-level CALFEXs. The SBCT dismounted CALFEXs would be similar to the CALFEXs conducted by the existing units using the same types of weapons and similar tactics. SBCT forces would use MMR after completion of the MMR EIS and Record of Decision if the range is available.

Anticipated use of MMR by SBCT is for approximately three to six company-level CALFEXs during a 242-day training year with additional days used for some squad and platoon maneuver live-fire training. The proposed action is to provide company-level combined-arms live-fire training and support exercises at MMR to the combat units assigned to the 25th ID(L) and to allow other military units to

conduct similar training. The company-level CALFEX I is the maximum level of training proposed at MMR due to the range's limited suitable maneuver training land.

Enclosure 3

Sensitive Marine Wildlife Occurring or Potentially Occurring in Hawaiian Waters near MMR ROI

Scientific Name	Common Name	[1]Federal Status	[2]State Status	Habitat	Date Last Observed	Likelihood of Occurrence	Notes
Cetaceans and Pinnipeds							
Balaenoptera acutorostrata	Minke whale	*	-	May occur in nearshore or offshore waters	Known Currently	P	Most common northwest of the main seven-island chain or on leeward side of islands. May be incidentally sighted in waters adjacent to MMR.
B. Borealis	Sei Whale	E*	-	Most likely in deeper offshore waters	Known currently	U	Rarely sighted in Hawaiian waters.
B. edeni	Bryde's whale	*	-	May occur in nearshore or offshore waters	Known Currently	P	Most common northwest of the main seven-island chain. May be incidentally sighted in waters adjacent to MMR.
B. musculus	Blue whale	E*	-	Most likely in deeper offshore waters	Known currently	U	Heard in Hawaiian waters.
B. physalus	Fin whale	E*	-	Most likely in deeper offshore waters	Known currently	U	Heard but rarely sighted in Hawaiian waters.
Berardius bairdii	Baird's whale	*	-	Most likely in deeper offshore waters	Known Currently	P	May be incidentally sighted in waters adjacent to MMR.
Delphinus Delphis	Common dolphin	*	-	Most likely in deeper offshore waters	Known Currently	U	May be incidentally sighted in waters adjacent to MMR.
Eubalaena glacialis	Pacific right whale	E*	-	Unknown if depth is a criteria	Known currently	U	Most likely stray individuals from more northern population.
Feresa attenuate	Pygmy killer whales	*	-	May occur in nearshore or offshore waters	Known Currently	C	Occasionally seen in the channels between the main islands. Has been documented off the coast of O'ahu.
Globicephala macrorhynchus	Short-finned pilot whale	*	-	May occur in nearshore or offshore waters	Known Currently	C	Occasionally seen in the channels between the main islands. Common in nearshore or offshore areas in waters adjacent to MMR.
Grampus griseus	Risso's dolphin	*	-	Most likely in deeper offshore waters	Known Currently	U	More common sighted offshore. May be seen in offshore areas in waters adjacent to MMR
Kogia breviceps	Pygmy sperm whale	*	-	Most likely in deeper offshore waters	Known Currently	P	Prefers deeper waters but occasionally seen in the channels between the main islands. May be incidentally sighted in waters adjacent to MMR.
K. simus	Dwarf sperm whale	*	-	Most likely in deeper offshore waters	Known Currently	P	Prefers deeper waters but occasionally seen in the channels between the main islands. May be incidentally sighted in waters adjacent to MMR.

Scientific Name	Common Name	[1]Federal Status	[2]State Status	Habitat	Date Last Observed	Likelihood of Occurrence	Notes
Monachus schauinslandi	Monk seal	E*, CH, D	-	More common in nearshore waters or hauled out on the coast.	Known currently	C	Most common northwest of the main seven-island chain. Incidental individuals may haul out along the coast of the islands' north shores. Anecdotal sighting on MMR beach.
Megaptera novaeangliae	Humpback whale	E*	-	May occur in nearshore or offshore waters	Known currently	C	Occurs throughout the main seven-island chain January through April. Occurs in waters adjacent to the islands' north shores.
Mesoplodon densirostris	Blainsville's whale	*	-	Most likely in deeper offshore waters	Known Currently	C**	Prefers deeper offshore waters but has been sighted off coast of O'ahu.
Orcinus orca	Killer whale	*	-	May occur in nearshore or offshore waters	Known Currently	C**	Occasionally seen, especially in the channels between the main islands and at the northwest island chain. May be incidentally sighted in nearshore or offshore waters adjacent to MMR
Peponocephala electra	Melon-headed whale	*	-	May occur in nearshore or offshore waters	Known Currently	C**	Occurs especially in the channels between the main islands and at the northwest island chain. May also occur in nearshore or offshore areas adjacent to MMR.
Physeter macrocephalus	Sperm whale	E*	-	Most likely in deeper offshore waters	Known currently	P	Most common off the north and eastern shores of the main seven islands. May be sighted in waters adjacent to the islands' north shores.
Pseudorca crassidens	False killer whale	*	-	May occur in nearshore or offshore waters	Known Currently	C**	Occasionally seen in the channels between the main islands. May be sighted in nearshore or offshore waters adjacent to MMR.
Stennella attenuata	Spotted dolphin	*	-	Most likely in nearshore, leeward coastal waters	Known Currently	C	Common along the coastline, especially on the leeward sides of the island. Occurs in nearshore or offshore areas in waters adjacent to MMR.
S. coeruleoalba	Striped dolphin	*	-	May occur in nearshore or offshore waters	Known Currently	P	More strandings sighted than live individuals.
S. longirostris	Spinner dolphin	*	-	Most likely in nearshore, leeward coastal waters	Known Currently	C	Common along the coastline. Occurs in nearshore or offshore areas in waters adjacent to MMR.
Steno bredanensis	Rough toothed dolphin	*	-	Most likely in deeper offshore waters	Known Currently	C**	Prefers deeper offshore waters but has been sighted off coast of O'ahu.
Tursiops truncatus	Bottlenose dolphin	*	-	May occur in nearshore or offshore waters	Known Currently	C	Common along the coastline. Occurs in nearshore or offshore areas in waters adjacent to MMR. Also common offshore in project area waters.

Scientific Name	Common Name	[1]Federal Status	[2]State Status	Habitat	Date Last Observed	Likelihood of Occurrence	Notes
Ziphius cavirostris	Cuvier's beaked whale	*	-	Most likely in deeper offshore waters	Known Currently	C**	Most common of the beaked whales in project area waters. Prefers deeper offshore waters but can be common in nearshore or offshore areas in waters adjacent to MMR.
Caretta caretta	Loggerhead turtle	T	-	In project area; prefers nearshore waters	Known currently	U	Considered uncommon in MMR waters
Chelonia mydas	Green turtle	T	-	In project area; prefers nearshore waters	Known currently	C	Nests annually on Hawaiian beaches; common in nearshore areas of any of the main seven islands; Most abundant sea turtle in MMR waters
Dermochelys coriacea	Leatherback turtle	E	-	In project area; prefers offshore waters	Known currently	C	Primarily occurs over deep oceanic waters; sighted equally as frequently off any of the main seven islands
Eretmochelys imbricata	Hawksbill turtle	E	-	In project area; prefers nearshore waters	Known currently	U	Considered uncommon; a small number nest on the Island of Hawai'i
Lepidochelys olivacea	Olive ridley turtle	T	-	In project area; prefers offshore waters	Known currently	U	Infrequently seen in Hawaiian offshore waters

Sources: NMFS 2000a-bb; ONR 2000.

Status:

[1]Federal:
E = Endangered
* = Protected under MMPA
D = Depleted under the MMPA
CH = Critical habitat designated or proposed for designation
** = presence confirmed from aerial surveys but found at a distance offshore from the MMR coastline, so discussed in Appendix rather than text.

[2]State
/-/ = No Status

Likelihood of occurrence in the project site
C = Confirmed
P = Potentially may occur
U = Unlikely to occur

Enclosure 4

Essential Fish Habitat Analysis for
Military Training Activities at Makua Military Reservation

1. Project Description: The project is described in the letter and due to its length, will not be repeated here. The action that may affect Essential Fish Habitat is sediment runoff from erosion within MMR.

2. Project Area: The project area includes the ocean fronting MMR to a distance of 0.5 miles from shore.

3. Essential Fish Habitats: The essential fish habitats (EFH) and habitat areas of particular concern (HAPC) designations are described in the enclosed table titled EFH and HAPC Designations for Western Pacific Fishery Management Units.

4. Potential Impact to ESH and Habitat Areas: Sediment runoff, if present, may cause an increase in turbidity in near-shore waters and obscure the vision of wildlife. However, this is not likely to be adverse. Storm runoff from MMR is minimal and therefore sediment runoff is not anticipated to be adverse. The expected increase in erosion from training would be within the natural range that exists due to rainfall and runoff variation is not expected to be significant. The Guinea Grass that grows in the majority of the installation's lower elevations grows extremely fast and is readily eliminated by wildfire. There are no HAPCs within the action area.

5. Conclusion: The Proposed Action is not likely to lead to substantial alterations to the marine habitat, or result in loss of, injury to, any FMP-managed species or their prey.

Table 1. Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (HAPC) Designations for Western Pacific Fishery Management Units (*Approved by NMFS on April 19, 1999*)

Fishery Managemnt Plan (FMP)	Essential Fish Habitat (EFH)	Habitat Areas of Particular Concern (HAPC)	Species Complexes
Bottomfish	**Eggs and larvae:** the water column extending from the shoreline to the outer limit of the EEZ down to a depth of 400 m (200 fathoms). **Juvenile/adults:** the water column and all bottom habitat extending from the shoreline to a depth of 400 m (200 fathoms)	**All slopes and escarpments between 40-280 m (20 and 140 fathoms).** **Three known areas of juvenile opakapaka habitat:** Two off Oahu and one off Molokai	**Bottomfish Complex** **Shallow water species (0-50 fm):** Uku (*Aprion virescens*), Thicklip trevally (*Pseudocaranx dentex*), Lunartail grouper (*Variola louti*), Blacktip grouper (*Epinephelus fasciatus*), Ambon emperor (*Lethrinus amboinensis*), Redgill emperor (*Lethrinus rubrioperculatus*), Giant trevally (*Caranx ignoblis*), Black trevally (*Caranx lugubris*), Amberjack (*Seriola dumerili*), Taape (*Lutjanus kasmira*) **Deep water species 50-200 fm):** Ehu (*Etelis carbunculus*), Onaga (*Etelis coruscans*), Opakapaka (*Pristipomoides filamentosus*), Yellowtail Kalekale (*P. auricilla*), Yelloweye opakapaka (*P. flavipinnis*), Kalekale (*P. sieboldii*), Gindai (*P. zonatus*), Hapupuu (*Epinephelus quernus*), Lehi (*Aphareus rutilans*)
Seamount Groundfish	**Eggs and larvae:** the (epipelagic zone) water column down to a depth of 200 m (100 fathoms) of all EEZ waters bounded by lattitude 29°-35° **Juvenile/adults:** all EEZ waters and bottom habitat bounded by latitude 29°-35° N and longitude 171° E-179° W between 200 and 600 m (100 and 300		**Seamount Groundfish Complex** **Deep water species (50-200 fm):** Armorhead (*Pseudopentaceros richardsoni*), Ratfish/butterfish (*Hyperoglyphe japonica*), Alfonsin (*Beryx splendens*)

	fathoms		
FMP	**EFH**	**HAPC**	**Species Complexes**
Pelagics	**Eggs and larvae:** the (epipelagic zone) water column down to a depth of 200 m (100 fathoms) from the shoreline to the outer limit of the EEZ. **Juvenile/adults:** the water column down to a depth of 1,000 m (500 fathoms) from the shoreline to the outer limit of the EEZ.	**The water column from the surface down to a depth of 1,000 m (500 fathoms) above all seamounts and banks with summits shallower than 2,000 m (1,000 fathoms) within the EEZ.**	**Temperate species** Striped Marlin (*Tetrapurus audax*); Bluefin Tuna (*Thunnus thynnus*); Swordfish (*Xiphias gladius*); Albacore (*Thunnus alalunga*); Mackeral (*Scomber* spp); Bigeye (*Thunnus obesus*); Pomfret (family Bramidae **Tropical species** Yellowfin (*Thunnus albacares*); Kawakawa (*Euthynnus affinis*); Skipjack (*Katsuwonus pelamis*); Frigate and bullet tunas (*Auxis thazard, A. rochei*); Blue marlin (*Makaira nigricans*); Slender tunas (*Allothunnus fallai*); Black marlin (*Makaira indica*); Dogtooth tuna (*Gymnosarda unicolor*); Spearfish (*Tetrapturus spp*); Sailfish (*Istiophorus platypterus*); Mahimahi (*Coryphaena hippurus, C. equiselas*); Ono (*Acanthocybium solandri*); Opah (*Lampris* sp) **Sharks** Requiem sharks (family Carcharinidae); Thresher sharks (family Alopiidae); Mackeral sharks (family Lamnidae); Hammerheads sharks (family Sphyrnidae)

FMP	EFH	HAPC	Species Complexes
Crustaceans	**Eggs and larvae:** the water column from the shoreline to the outer limit of the EEZ down to a depth of 150 m (75 fathoms) **Juvenile/adults:** the all bottom habitat from the shoreline to a depth of 100 m (50 fathoms)	**All banks in the NWHI with summits less than or equal to 30 m (15 fathoms) from the surface.**	**Spiny and Slipper Lobster Complex** Hawaiian spiny lobster (*Panulirus marginatus*), Spiny lobster (*P. penicillatus, P.* sp.), Ridgeback slipper lobster (*Scyllarides haanii*), Chinese slipper lobster (*Parribacus antarticus*) **Kona Crab** Kona crab (*Ranina ranina*)
Precious Corals	EFH for Precious Corals is confined to six known precious coral beds located off Keahole Point, Makapuu, Kaena Point, Wespac bed, Brooks Bank and 180 Fathom Bank. EFH has also been designated for three beds known for black corals in the Main Hawaiian Islands between Milolii and South Point on the Big Island, the Auau Channel and the southern border of Kauai	**Includes the Makapuu bed, Wespac bed, Brooks Banks bed.** **For Black Corals, the Auau Channel has been identified as a HAPC.**	**Deep-water Precious Corals (150-750 fm)** Pink coral (*Corallium secundum*), Red coral (*C. regale*), Pink coral (*C. laauense*), Midway deepsea coral (*C.* sp nov.), Gold coral (*Gerardia* sp), Gold coral (*Callogorgia gilberti*), Gold coral (*Narella* spp.), Gold coral (*Calyptrophora* spp.), Bamboo coral (*Lepidisis olapa*), Bamboo coral (*Acanella* spp.) **Shallow-water Precious Corals (10-50 fm)** Black coral (*Antipathes dichotoma*), Black coral (*Antipathis grandis*), Black coral (*Antipathes ulex*)
***Coral Reef Ecosystem**	EFH for the Coral Reef Ecosystem MUS includes the water column and all benthic substrate to a depth of 50 fathoms from the shoreline to the outer limit of the EEZ	**Includes all no-take MPAs identified in the CRE-FMP, the Pacific remote islands, as well as numerous existing MPAs, research sites and coral reef habitats throughout the western Pacific region.**	*For a complete listing of all CRE-MUS and EFH/HAPC, see CRE FMP volume III: Description of Essential Fish Habitat for Coral Reef Ecosystem Management Unit Species*

* Under the Coral Reef Ecosystem FMP, Management Unit Species (MUS) include virtually all of the organisms that inhabit the coral reef ecosystem including bony fishes, rays, invertebrates, corals, algae and other sessile benthos. NMFS partially approved the CRE-FMP and EFH designations on June 14, 2002 (NMFS disapproved portions of the CRE-FMP pertaining to the management of the NWHI).

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February 14, 2005

Mr. Paul Henson
Field Supervisor
US Fish and Wildlife Service
Pacific Islands Office
300 Ala Moana Boulevard, Room 3-122
Box 50088
Honolulu, Hawai'i 96850

Subject: Resumption of Military Training at Makua Military Reservation

Dear Mr. Henson,

I am writing to request a list of special status species potentially occurring in the vicinity of the Makua Military Reservation. The project site and region of influence fall within the following US Geological Survey 7.5-Minute quadrangles: Kaena OE W, Kaena, and Waianae. The US Army is the lead agency on this proposed project.

Before any program activities begin, the US Army will complete an environmental impact statement discussing the presence of special status species that may be found at the project site, evaluating the project's effects, and will propose measures to mitigate those effects, as needed. Mitigation measures that the US Army and US Fish and Wildlife Service agree on would become part of the proposed action.

To comply with the schedule for this environmental impact statement, I would appreciate a response to this request within two weeks.

Please feel free to contact me, or my colleague, Jen Saufler, if you have any questions or comments regarding this project. I can be reached at 415-974-1221 or via e-mail at jeanette.weisman@tetratech.com, and Ms. Saufler can be reached at 808-441-5823 and by e-mail at jen.saufler@tetratech.com.

Sincerely,

Jeanette Weisman
Biologist

TC # K838-06

DEPARTMENT OF THE ARMY
AVIATION BRIGADE
25TH INFANTRY DIVISION (LIGHT)
WHEELER ARMY AIRFIELD, HAWAII 96854-6000

REPLY TO
ATTENTION OF

APVG-YZB-CO

11 February 2003

MEMORANDUM FOR SEE DISTRIBITION

SUBJECT: Addition to Local Flying Rules

1. Our Local Flying Rules prohibit aircraft from flying with 1000 feet of whales. Effective immediately this procedure is expanded to include monk seals and dolphins.

2. The next change to the Local Flying Rules will change Section III, paragraph 2.h. to read: Flight within 1000 feet, vertically or laterally, of any marine mammal, (whale, monk seal, or dolphin) is prohibited. If flying below 1000 feet above the surface and these animals are observed, alter flight path so as to avoid them by 1000 feet.

3. POC for this memo is Aviation Brigade Standardization Office, 656-7740.

J. SCOTT SCHISSER
COL, AV
Commanding

DISTRIBUTION:
A